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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TITLE: ADJUSTABLE STILT

INVENTOR: DENNY WAXLER

## BACKGROUND OF THE INVENTION

## 1. Field of The Invention

The present invention relates to height adjustable stilts in workplace and recreation contexts.

## 2. Background Information

Many construction activities, such as painting, wallpapering, ceiling texturing, etc., require work performance at heights not reachable by typical workers. Additionally, many professional and recreational activities, such as circus clowns, etc., require performance at elevated heights. In both contexts, professionals and amateurs have struggled with achieving performance at heights unreachable by the person alone. Several methods have been devised to elevate persons from the floor or ground. The problem has been to develop equipment that allows for easy horizontal movement (i.e. walking), is height adjustable, is completely secure in its height adjustment so as to not be vulnerable to catastrophic failures resulting in sudden drop of height, leaves the hands and body free to work, provides stability on flat to moderately rough surfaces, provides shock absorption during movement, is light weight, is portable,

1 fastens securely to the user, is reasonably convenient to  
2 mount and dismount, and is cost effective.

3 Achieving all of the desired aspects in one set of  
4 stilts is a difficult task at best. Thus, current solutions  
5 typically tradeoff some requirements in favor of others.  
6 However, the need for a design that addresses the safety  
7 issue of sudden catastrophic drops in height, shock  
8 absorption, and the relation of these requirements to cost  
9 has gone unfulfilled.

10 The present invention, as will be described below,  
11 incorporates the fact that many amateurs and professionals  
12 will not spend large sums of money for the currently  
13 available adjust-on-the-fly stilts commonly used by  
14 professionals. This is especially true since many users may  
15 only need one height setting to be used for extended periods  
16 and thus, have no need for the costly option of immediate  
17 on-the-fly height adjustment. Additionally, the present  
18 invention provides a level of shock absorption for the user,  
19 which is an important comfort aspect for users who spend  
20 large amounts of time on stilts. Furthermore, the present  
21 invention solves the safety problem of failures of elevation  
22 mechanisms resulting in sudden catastrophic drops in height  
23 and potential injury to the user.

## SUMMARY OF THE INVENTION

In view of the foregoing, it is an object of the present invention to provide an improved method for mobile height elevation by way of stilts.

It is another object of the present invention to provide a novel means of stilt height adjustment for the user without the use of costly on-the-fly height adjustment mechanisms.

It is another object of the present invention to provide an improved method of shock absorption on mobile stilts.

It is another object of the present invention to provide a novel means for eliminating the risk of sudden catastrophic drops in height from height adjustable stilts.

In satisfaction of these and other related objectives, Applicant's present invention provides for improved height adjustable stilts. Applicant's stilt, in its preferred embodiment, exhibits a base assembly with a base plate with traction surface on the bottom-most position of the assembly. The upper surface of the base assembly includes puzzle piece-like recesses (or protrusions, depending on the

1 manufacturer's preferences) which are designed to reversibly  
2 register with a base plate portion which is configured of  
3 either a middle, I-beam assembly (used to configure the  
4 stilt for effecting the greatest height increase for its  
5 user), or a foot support assembly (connected directly to the  
6 base assembly, when a shorter configuration is desired).

7 The foot support assembly includes a spacer block which is,  
8 in the preferred embodiment, made of a dense, shock  
9 absorbing foam material, on top of which is a top plate with  
10 a foot engagement assembly with suitable straps (VELCRO) for  
11 securing one's foot, shoe or boot in position atop the stilt  
12 assembly.

13 The three assemblies of the preferred embodiment just  
14 described interlock in the two described configuration, and  
15 may be substituted or supplemented with additional  
16 assemblies of differing heights to provide an even greater  
17 variety of height options. Equivalent to the present  
18 disclosure are units in which the I-beam (or its equivalent)  
19 and the foam block are exchanged in relative positions.

20 The foam blocks of the foot assembly provide stability  
21 and shock absorption for the stilts. Furthermore, by  
22 varying the material used for the foam blocks, different  
23 levels of shock absorption can be set by the user.

1                   Applicant's approach to the problem described above is  
2                   certainly simple, but it is equally unobvious. Applicant's  
3                   informal surveys of professional and amateur stilt users  
4                   reveal a long but unsatisfied need for height adjustable  
5                   stilts that are less expensive than the costly adjust on-  
6                   the-fly stilts, have no safety risk of sudden catastrophic  
7                   height drops, and provide variable shock absorption.  
8                   Despite this well-known and long-existing problem, no one  
9                   has presented a viable, cost effective solution such as  
10                  applicant here provides.

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12                  BRIEF DESCRIPTION OF THE DRAWINGS

13                  Fig. 1 is a rear, elevational, exploded view of a stilt  
14                  assembly of the present invention.

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16                  DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

17                  With reference to Figure 1, the stilt assembly of the  
18                  present invention is identified generally by the reference  
19                  number 10.

20                  Stilt assembly 10 includes a base assembly 12 with a  
21                  base plate 14 having a traction surface (not visible in the  
22                  drawing) on the bottom most position of the base assembly  
23                  12. The upper surface 16 of base assembly 12 includes

1           puzzle registry 18 which is designed to reversibly register  
2           with a complementarity configured based plate portion 20 of  
3           a middle assembly 22 (used to configure the stilt for  
4           effecting the greatest height increase for its user), or  
5           with a puzzle registry 23 of a base plate assembly 24 of a  
6           foot support assembly 25 (connected directly to the base  
7           assembly 12, when a shorter configuration is desired).

8           In the preferred embodiment, middle assembly 22  
9           includes a plastic I-beam 27 which provides the height of  
10          middle assembly 22. A plastic I-beam structure is chosen  
11          for lightness and in view of cost considerations, but  
12          alternative spacing material and configurations are  
13          acceptable, and within the scope of the present invention.

14          The foot support assembly 25 includes a foam spacer  
15          block 26 which is, in the preferred embodiment, made of a  
16          dense, shock absorbing foam material (available from sources  
17          such as the Minnesota Mining and Manufacturing Company), on  
18          top of which is a top place 28 with a foot engagement  
19          assembly 30, in turn, with suitable straps 32 (VELCRO) for  
20          securing one's foot, shoe or boot in position atop the stilt  
21          assembly 10.

22          The puzzle registry 23 of base plate 24 of foot support  
23          assembly 25 is configured to reversibly engage,

1 alternatively, with either puzzle registry 18 of base  
2 assembly 12 or with puzzle registry 29 which is situated  
3 atop I-beam member 27 of middle assembly 22.

4 The three assemblies of the preferred embodiment just  
5 described interlock in the two described configuration  
6 (taller or shorter configuration, respectively with and  
7 without the middle, I-beam assembly 22), and certain of the  
8 described assemblies, or components thereof, may be  
9 substituted or supplemented with additional assemblies of  
10 differing heights to provide an even greater variety of  
11 height options. Equivalent to the present disclosure are  
12 units in which the I-beam (or its equivalent) and the foam  
13 block are exchanges in relative positions, as well as units  
14 in which the puzzle assemblies are respectively reversed in  
15 the their male/female configuration as shown.

16 Although the invention has been described with  
17 reference to specific embodiments, this description is not  
18 meant to be construed in a limited sense. Various  
19 modifications of the disclosed embodiments, as well as  
20 alternative embodiments of the inventions will become  
21 apparent to persons skilled in the art upon reference to the  
22 description of the invention. It is, therefore,

1 contemplated that the appended claims will cover such  
2 modifications that fall within the scope of the invention.  
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